

REMARKS

New claims 5 through 14 have been added to the application with original claims 1-4 having been cancelled.

The Examiner has objected to the drawings because original claim 1 made reference to “pulleys,” in the plural. In that regard, new claims 5 through 14 only refer to a single pulley unit and, therefore, the drawing objection is no longer applicable. For that reason, it is respectfully submitted that the Examiner withdraw the drawing objection.

Original claims 1 through 4 were rejected under 35 U.S.C. §112 as containing subject matter which the Examiner says was not described in the specification. The Office Action on pages 2 and 3 identifies specific terminology used in the claims which the Examiner says does not find support in the specification. In that regard, new claims 5 through 14 have been prepared taking those comments into account so that new claims 5 through 14 do not contain any of the objectionable language. In light of this, it is respectfully submitted that new claims 5 through 14 are not subject to rejection under 35 U.S.C. §112.

Original claims 1-4 were rejected under 35 U.S.C. §102(e) as being anticipated by Zenmei et al. (U.S. Patent No. 5,675,202). The Examiner takes the position as outlined on page 4 of the Office Action that each and every element recited in original claims 1 through 4 is shown in the Zenmei reference.

In that regard, new claims 5 through 14 have been prepared taking into account those remarks. This response will address pending claims 5 and 10 initially to show how neither one

of those claims nor their dependent claims is anticipated or made obvious by any of the references of record taken alone or in combination.

With regard to the invention provided for in claim 5, it is respectfully submitted that the present invention is patentably distinct in that Figure 3 of the pending application shows significant differences from Figure 4 of the Zenmei patent. In particular in the claimed invention, not only do the rollers make contact with the inner and outer surfaces of the pulley and the rotor shaft but, in the invention of the pending application as shown in Figure 3, both of the roller bearings 5 and 4 make contact with the outer surface of the rotor shaft 2 and the inner surface of the pulley 1. By contrast, the Zenmei reference always requires the bearings have outer and inner rings to hold the ball bearings.

Thus, the proposed new claim 5 emphasizes that there are first and second roller bearings provided on both sides of the one-way clutch so as to restrain axial movement of the one-way clutch and that at least one of the roller bearings includes a movable surface that is in rolling contact with the outer surface of the inner ring body.

Such a novel construction is not shown in Zenmei nor it is shown in any of the other references. For this reason, it is respectfully submitted that claim 5 is in condition for allowance and is neither anticipated or made obvious by any of the references of record taken alone or in combination.

Claims 6 through 9 can trace their dependency to claim 5 and as such incorporate the limitations of that claim. Thus, for at least this reason, claims 6 through 9 are likewise in

condition for allowance and are neither anticipated nor made obvious by any of the references of record taken alone or in combination.

New claim 10 also differs from Zenmei in light of the recitation at the end of the claim. In particular, claim 10 recites a first rolling bearing provided on a base end side of the one-way clutch in the annular space and a second rolling bearing provided on a free-end side of the one-way clutch in the annular space wherein the first rolling bearing includes a rolling body in the form of a cylinder. As can be seen by examining the prior art, in all cases including Zenmei, the rolling bearings are made up of ball bearings. In no case, are any of the rolling bearings in the form of a cylinder. Further, none of the references teach or suggest locating the second roller bearing on the free-end side of the one-way clutch.

For these reasons, it is respectfully submitted that claim 10 is neither anticipated under 35 U.S.C. §102 nor made obvious by any of the references of record taken alone or in combination and is therefore in condition for allowance.

New claim 11 is a dependent claim that depends from claim 10. As such, claim 11 incorporates all of the limitations of claim 10. In addition, claim 11 provides that a point of application of a load of a belt is set in such a manner as to be biased to a free-end side of the pulley unit. Such an arrangement in the context of the limitations of claim 10 is not shown by any of the prior art and thus it is respectfully submitted that claim 11 is likewise in condition for allowance and is neither anticipated nor made obvious by any of the references of record taken alone or in combination.

Claims 12 through 14 dependent from claim 10 and as such incorporate the limitations of that claim. Thus, it is respectfully submitted that for at least this reason, claims 12 through 14 are in condition for allowance and are neither anticipated nor made obvious by any of the references of record taken alone or in combination.

The citation of the prior art of record has been noted and it is not believed that any of this art taken alone or in combination with the Zenmei reference anticipates or makes obvious that which the applicants regard as their invention as provided for in new claims 5 through 14.

Thus, it now appears that the application is in condition for allowance. Should the Examiner have any questions after reviewing this Amendment, he is cordially invited to call the undersigned attorneys so that this case can receive an early notice of allowance.

Favorable consideration and allowance are earnestly solicited.

Respectfully submitted,

JACOBSON HOLMAN PLLC

By 

Allen S. Melser
Registration No. 27,215

Date **June 12, 2002**
Customer Number 00,136
400 Seventh Street, N.W.
Washington, D.C. 20004
(202) 638-666

CLAIMS MARKED TO SHOW CHANGES

IN THE CLAIMS

Please cancel claims 1-4 without prejudice.

Please add new claims 5 through 14.

- -5. A pulley unit for use around a shaft that extends in an axial direction, the pulley unit comprising:
- inner and outer concentric ring bodies that define an annular space there between;
 - a one-way clutch, interposed in the annular space between the inner and outer ring bodies, the one way clutch including;
 - a cam face defined on the outer surface of the inner ring body;
 - a holder defining a pocket, the holder being positioned on the cam face; and
 - a roller with a movable surface and an elastic member positioned in the pocket so that the movable surface is in rolling contact with the inner surface of the outer concentric ring body and the outer surface of the inner concentric ring body, the roller locking the one-way clutch when the outer concentric ring body is rotated faster than the inner concentric ring body and the roller unlocking the one-way clutch and engaging the elastic member when the outer concentric ring body is rotated slower than the inner concentric ring body; and

first and second rolling bearings provided on both sides of the one-way clutch in the annular space so as to restrain axial movement of the one-way clutch, at least one of the rolling bearings including a movable surface that is in rolling contact with the outer surface of the inner ring body.

6. The pulley unit of claim 5, wherein the movable surface of the at least one rolling bearing is in rolling contact with the inner surface of the outer concentric ring body.

7. The pulley unit of claim 6, wherein the number of rolling bearings is two and each of the rolling bearings has a movable surface in rolling contact with both the inner surface of the outer ring body and the outer surface of the inner ring body.

8. The pulley unit of Claim 5, wherein the roller is cylindrically shaped.

9. The pulley unit of claim 5, wherein the first rolling bearing includes a rolling body in the form of a sphere and the second rolling bearing includes a rolling body in the form of a cylinder.

10. A pulley unit for use around a shaft that extends in an axial direction, the pulley unit comprising:

inner and outer concentric ring bodies that define an annular space there between;

a one-way clutch, interposed in the annular space between the inner and outer ring bodies, the one way clutch including;

a cam face defined on the outer surface of the inner ring body;

a holder defining a pocket, the holder being positioned on the cam face; and

a roller with a movable surface and an elastic member positioned in the pocket so that the movable surface is in rolling contact with the inner surface of the outer concentric ring body and the outer surface of the inner concentric ring body, the roller locking the one-way clutch when the outer concentric ring body is rotated faster than the inner concentric ring body and the roller unlocking the one-way clutch and engaging the elastic member when the outer concentric ring body is rotated slower than the inner concentric ring body; and

a first rolling bearing provided on a base end side of the one-way clutch in the annular space; and
a second rolling bearing provided on a free-end side of the one-way clutch in the annular space, wherein the first rolling bearing includes a rolling body in the form of a cylinder.

11. The pulley unit of claim 10, where a point of application of a load of a belt is set as to be biased to the free-end side of the pulley unit.

12. The pulley unit of claim 10, wherein the at least one rolling bearing is in rolling contact with the inner surface of the outer concentric ring body.

13. The pulley unit of claim 13, wherein the number of rolling bearings is two and each of the rolling bearings has a movable surface in rolling contact with both the inner surface of the outer ring body and the outer surface of the inner ring body.

14. The pulley unit of Claim 10, wherein the roller is cylindrically shaped.- -